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DISCRIMINATING EMOTIONS AND ENGAGING DIFFICULT EMOTIONAL MATERIAL:
IMPLICATIONS FOR PROCESS AND OUTCOME IN WRITTEN DISCLOSURE

A Thesis
presented in fulfillment of requirements
for the degree of Master of Arts
in the Department of Psychology
The University of Mississippi

by

STEPHANIE L. NASSAR

September 2011

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ABSTRACT

Written disclosure participants have experienced numerous psychological and physiological benefits, as compared to those who wrote about neutral topics (Baikie & Wilhelm, 2005; Corter & Petrie, 2011; Frattaroli, 2006; Pennebaker & Chung, in press). Given the beneficial results of expressive writing commonly found among healthy participants, exploration of this method was expanded to broader populations with mixed results. Researchers have attempted to provide a rationale for why, when, and with whom written disclosure works.

As emotional clarity and experiential avoidance have been linked to psychological well-being, this study examined their relative contributions to written disclosure benefits. Participants self-reported on measures of emotional clarity, experiential avoidance, and psychological distress. They then met individually with a warm, friendly experimenter in a private office to receive writing instructions. Participants were randomly assigned to a control writing condition (contents of house) or expressive writing condition (most traumatic, upsetting experience). Participants wrote for three 20-minute sessions, with brief check-ins between sessions to ensure writing task integrity. Upon writing task completion, participants met individually with the experimenter who asked them to return within one week to complete measures of psychological well-being.

Between-groups, the expressive condition had a slightly larger reduction in mean distress scores from pre-writing to post-writing; however, this decrease was not statistically significantly different from the control condition. Neither emotional clarity nor experiential avoidance contributed differentially to psychological distress change post-writing manipulation. However, clarity and avoidance demonstrated pre-existing statistically significant relationships with psychological distress. This finding is consistent with the literature.

When entered into a regression model, clarity and avoidance each accounted for a significant amount of variance in psychological distress. Additionally, avoidance change accounted for a significant amount of variance in psychological distress change. Future studies that investigate and directly manipulate the relationship between avoidance and distress will be helpful in understanding the directional nature of these change processes.

Our findings raise more questions than they answer about emotional disclosure. Future research on theoretically driven processes is necessary to unravel the mechanisms of action in the writing paradigm so it may produce the greatest benefits for as many people as possible.

DEDICATION

This thesis is dedicated to my family: my devoted Dad Tom, my loving Mom Judi, my elder brothers Tommy and Nathan, my spritely sister Aimee Leigh, my ever supportive “Aunt and Unk” Wydia and David, The Madison Nassars (home away from home), The Childs’ Arkansas Tribe, my New England family including my proud Grandma Ruth and Uncle Steve whose name I share, and most of all, my heart, my Jidi: Shelby E. Nassar. Each of them consistently supported me, nurtured me, loved me, and bet on me, even when I did not bet on myself. They enabled me to cherish the personal meaning of completing this project, even in the seemingly hardest of times when I thought I could not, by their encouragement and continual love. Many dog bones to my newest and littlest helper: Chewie Bacca Nassar, for the countless hours she curled up in my lap, keeping me warm with company, whilst I type away (including now). And saving the best for last, many appreciations to my beau, Kevin Felker, for his careful attention, helpful support, sweet encouragement, and effective reinforcement regarding my writing process.

LIST OF ABBREVIATIONS AND SYMBOLS

TMMS	Trait Meta Mood Scale
AAQ	Acceptance and Action Questionnaire
OQ-45.2	Outcome Questionnaire-45.2
LIWC	Linguistic Inquiry and Word Count

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My interest in expressive writing research is credited to Leslie Rogers, Ph.D., curious friend and former lab mate-mentor. The brainstorming, butchering, and shaping of this document into a whole, complete, and perfect paper is fully credited to my mentor, Kelly Wilson, Ph.D. His curiously strong philosophy of human living has made my world _that_ much bigger and richer. To this curious and flexible way of thinking and doing, I am deeply grateful and commit to share with others I meet along this journey. Extra special thanks to lab co-director Kate Kellum, Ph.D., for being a helpful, sensible anchor including timely edits.

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INTRODUCTION

Since the inception of talk therapy, psychologists and mental health professionals have asked their clients to discuss difficult emotional material. Clients' personal experiences have been discussed within a warm, empathetic, and supportive therapeutic environment. Such therapeutic environments have been linked to positive outcomes (Lambert, 1992; Lambert & Bergin, 1994). Creating an accepting context has been argued to encourage disclosure and exploration of one's most personal thoughts, emotions, desires, and actions (Lambert, 1983). Emotional disclosure is a ubiquitous feature of therapies and there is continued debate about how discussing emotional material leads to benefits for clients. Several schools of psychology have formulated explanatory models to address why emotional disclosure works. The three most common models, psychoanalytic, cognitive, and behavioral, will be reviewed for explanation of this phenomenon.

Origins of Emotional Disclosure

The origins of emotional disclosure in psychotherapy are rooted in the psychoanalytic model. In 1880, under the mentorship of Charcot, Freud began to treat patients with hysteria via hypnosis. Hysteria was characterized by unexplained physical symptoms, such as speech and gait difficulties, muscle spasms, pain, paralysis, and seizures. Freud and Charcot noticed that hysterical patients' physical health improved after discussing intense emotional memories while hypnotized.

Freud hypothesized that hysteria resulted from unresolved psychic trauma that was too intense to verbally or emotionally assimilate (Messer & McWilliams, 2007). In the lecture *On the Psychological Mechanism of Hysterical Phenomena (1893)*, Breuer and Freud (1956) claimed that the hypnotic state allowed hidden traumatic memories to become present for discussion. Hypnosis was argued to provide a safe environment in which patients could reconstruct and reenact unfinished trauma.

While under hypnosis, patients were questioned about their memory of when a particular symptom first appeared and related associations. During this process, Freud noted that a string of extremely vivid and affect-laden memories would surface. Through a series of questions, the patient and physician acquired insight into the origin of a particular symptom (Breuer & Freud, 1956). Freud asserted that this process allowed the person to experience a cathartic reaction to any unpleasant thoughts, emotions, and unsettled mental trauma (Messer & McWilliams, 2007). Freud argued that patients benefited through gaining insight into internal conflicts.

As Freud developed psychoanalysis, he discontinued practicing hypnosis and switched to talk therapy and free association techniques. However, the goal of talk therapy was identical to that of hypnosis: to create insight into unconscious inner conflicts. The process of gaining insight as well as insight itself was thought to be therapeutic.

Psychodynamic therapy further emphasized and measured insight. For example, ego psychology distinguished between emotional and intellectual insight, defining insight as awareness of feelings or self-understanding (Messer & McWilliams, 2007). Insight measurement scales included: recognition of personal patterns, observation of internal processes and psychopathology, revision of pathological thoughts/ideas, and recognition of motivations of the self and others (Holland, Roberts, & Messer, 1998).

True insight into a conflict was not merely recognizing the problem, but also accepting, elaborating upon, and exploring the conflict on your own (Tisby, Assa, & Shefler, 2006). Additionally, Gelso and Harbin (2007) postulated insight to be particularly effective when integrated with affect.

By the middle of the 20th century, psychiatry began to use the term *insight* and defined it as knowledge of having a problem. Such awareness was viewed as a sign of favorable prognosis in treatment. By the late twentieth century, psychoanalytic papers included the term *insight* in titles. Insight was considered a critical component in psychotherapy as it served as both the cause and result of positive change (Messer & McWilliams, 2007).

Cognitive Model

Although it emerged in opposition to the psychodynamic tradition, the cognitive perspective shared the view that insight mediated change. The cognitive model is not typically described as an insight model. However, discussing difficult emotional material was argued to allow one to gain insight into faulty schemas about the self, the world, and the future (Beck, 1967; Beck, 1976). Personal beliefs and assumptions were identified and challenged, revealing inconsistencies with real world evidence. As a result, irrational automatic thought patterns were discovered by the client. This discovery created the key ingredient needed for positive change: insight into faulty thinking and awareness of alternative cognitions. Insight remained a core process in cognitive therapy, although the content of relevant insight shifted from unconscious inner conflicts to automatic faulty thinking. This should not be terribly surprising, since the earliest developers of cognitive therapy were themselves trained in psychoanalysis (Bloch, 2004; David, 2007; Ellis, 1956; Halasz, 2004).

Another major proponent of the cognitive tradition, Albert Ellis (1963) explicitly emphasized the difference between intellectual and emotional insight. An example of intellectual insight included a mere New Year's resolution acknowledging the need to lose weight, eat healthy, or exercise. Ellis asserted that emotional insight was much more than this. Emotional insight was not merely the person knowing that they were troubled. Rather, they continuously practiced challenging previously held irrational assumptions. It involved "seeing—and believing; thinking—and acting; wishing—and practicing" (Ellis, 1963, p. 126). The emotionally intelligent person fully believed that his or her thoughts were incorrect and recognized that particular behaviors were self-defeating. The person wanted to change beliefs and behaviors. The greater the intensity of insight, the greater the number and kinds of behaviors affected, forcefulness of the pursuit, effectiveness of change attempts, and strength of the commitment. Emotional insight led to positive lifestyle changes.

Although psychoanalytic and cognitive therapies appear unique in the difficult psychological content targeted (i.e., inner conflicts versus faulty thoughts), the underlying process of change is alike: insight. Both schools emphasize an emotional aspect of insight, claiming that insight is particularly effective when affect is integrated. Given the importance given to insight as a mechanism of change, it is important to explore the literature on emotional insight and psychological well-being.

Definitions of emotional insight. There are several bodies of evidence supporting emotional insight as an indicator of psychological health. Emotional insight refers to an individual's awareness and understanding of emotional information (Mayer, Roberts, Barsade, 2008). Salovey and Mayer (1990) defined the emotionally intelligent individual as a person capable of disclosing feelings for adaptive social purposes.

Based upon this definition of emotional intelligence, the Trait Meta Mood Scale (TMMS; Salovey, Mayer, Goldman, Turvey, & Palfai, 1995) was developed to assess individuals' self-reported emotional facility, including the ability to discriminate and understand emotions (i.e., emotional clarity). Salovey and colleagues (1995) hypothesized that individuals vary in ability to process emotional information. Researchers argued that a person must be emotionally clear (able to label, identify, and understand emotions) to disclose and regulate own and others' feelings.

Experimental literature on emotional insight. Salovey and colleagues (1995) discovered differences between individuals reporting high versus low emotional clarity on the TMMS. Emotional clarity was negatively correlated with vulnerability to distress, depression, neuroticism, and ambivalence to emotions. Emotional clarity was positively correlated with recovering from a negative mood, experiencing positive affect, and reducing ruminative thoughts (Salovey et al., 1995). Psychophysiological indices of reduced stress responses (e.g., lowered cortisol levels), active coping, positive reinterpretation, marital forgiveness, and marital satisfaction were also associated with emotional clarity (Ciarrochi, Forgas, & Mayer, 2006). Emotional awareness was also positively related to fewer biased mood-congruent judgments, higher levels of social well being, and a higher number of social supports (Ciarrochi et al., 2006). These findings lend support to the notion that emotional insight facilitates psychological wellbeing.

Behavioral Model

Unlike the first two theoretical models presented, the behavioral perspective did not assert insight as the process for therapeutic gains. Insight was rejected by some behaviorists as it implied unconscious processes that were not directly observable, measureable, or testable (Cautela, 1993). Instead, exposure to difficult emotional stimuli was viewed as the process of change. Exposure was thought to extinguish conditioned emotional responses.

The pioneer of American behaviorism, John Watson (1913), emphasized observation of behaviors and denied the importance of internal psychological processes. Watson and Rayner's (1920) study with Little Albert provided evidence that emotional responses of fear could be conditioned to previously neutral stimuli. Using the same direct conditioning techniques, four years later, Mary Cover Jones (1924) provided experimental evidence that emotional responses of fear could be extinguished. These studies gave credence to the idea that exposure to external stimuli created behavioral change with no need to appeal to insight.

In the 1960s and 1970s, snake analogue studies became common tools used to investigate conditioned fears (McNally, 2007; Wolitzky-Taylor, Horowitz, Powers, & Telch, 2008). Exposure-based treatments became well developed and accepted. When the person with a phobia was placed in the presence of snakes, arousal and avoidance were high. While arousal was high, they were encouraged not to escape or avoid the snake. Through external exposure, conditioned emotional responses of avoidance were argued to be extinguished.

While doing this work, some researchers noted that people were not merely afraid of the physical presence of phobic objects. People were also afraid of the physiological sensations that occurred in the presence of phobic objects. Researchers elaborated upon the exposure model to include physiological responses, called interoceptive cues, as feared stimuli (Moses & Barlow, 2006). Examples of interoceptive cues include rapid heart rate, shortness of breath, tingling, changes in body temperature, dizziness, nausea, and other physical sensations. Treatment exercises were fashioned to induce physiological responses. Exposure to these internal cues was used to inoculate against future maladaptive conditioned emotional responses (CERs). Lastly, clients practiced responses incompatible with CERs (Moses & Barlow, 2006). For the behavioral model, the therapeutic process of change is exposure: to get the person to interact with the difficult content and thereby reduce conditioned emotional responses of avoidance.

Taking this model of exposure more broadly, Hayes and colleagues (1996) asserted that internal psychological stimuli, such as memories, thoughts, sensations, and emotions, can be avoided in the same way that external and physiological stimuli are. While not all avoidance is bad, avoidance may become maladaptive. The term *experiential avoidance* was coined to refer to the avoidance of private events. Assessment and treatment of experiential avoidance has since been a target of investigation within the Acceptance and Commitment Therapy model (Hayes, Strosahl, & Wilson, 1999).

From a behavioral perspective, “insight-like events” during exposure are seen as byproducts of symptom change rather than causal agents (Cautela, 1965). From a common sense perspective it seems clear that insight sometimes, but not always, organizes behavior. Many of us know, for example, the importance of exercise or nutrition but do not act on those insights.

Extinction of conditioned emotional responses of avoidance, or experiential avoidance, is seen as the key ingredient needed for adaptive lifestyle changes. While not all forms of experiential avoidance are harmful (e.g., distracting yourself while receiving a routine dental cleaning), experiential avoidance as defined by Hayes and colleagues (1996) has been found to be related to a wide variety of psychological problems (Hayes et al., 2004).

Definition of experiential avoidance. Experiential avoidance is defined as any attempt to modify, escape, or avoid private experiences, such as memories, sensations, or thoughts (Hayes et al., 1996; Hayes et al., 1999). It operates on the behavioral principle of negative reinforcement. Avoidance functions as a way to alleviate psychological distress. Exposure with response prevention undermines conditioned emotional responses and avoidance.

Considering that adaptive behavioral changes are, at times, accompanied by psychological discomfort, avoidance of unpleasant emotions and distressing thoughts may hinder positive change (Hayes et al., 1996). While certain forms of avoidance may cause short-term relief, experiential avoidance over the long-term is proposed as a mediator of long-term psychological problems (Hayes et al., 1999; Hayes et al., 2004).

Experimental literature on experiential avoidance. Research in this area indicated that higher levels of experiential avoidance were positively correlated with measures of depression, anxiety, lower quality of life, specific phobias, self-deceiving positivity, and avoidant coping (Hayes et al., 2004). Hayes and colleagues (2006) conducted a meta-analysis of 32 studies that investigated the relationship between experiential avoidance and measures of mental health and life quality.

Lower levels of experiential avoidance were positively correlated with decreased likelihood of a psychiatric diagnosis, better job performance, less disability, better work status, more daily active time, and fewer prescription analgesics and healthcare visits related to pain, with a weighted effect size of .42 (Hayes et al., 2006). Experiential avoidance was also found to partially mediate the impact of coping strategies (i.e., cognitive reappraisal, emotional response style, maladaptive coping, and controllability) on daily mood outcomes and anxiety.

Hayes and colleague's (2006) meta-analysis also reviewed three experimental psychopathology studies that examined the relationship between experiential avoidance and anxiety during carbon-dioxide inhalation tasks. Overall, the general findings were that those high in experiential avoidance (in comparison with those low in experiential avoidance) reported greater levels of anxiety and affective distress during the carbon-dioxide inhalation task. Also, participants instructed to accept (in comparison with those instructed to suppress or control) were less behaviorally avoidant and reported less intense fear and subjective anxiety as well as greater willingness to return for a second carbon-dioxide inhalation. Results suggest that undermining experiential avoidance by instructing acceptance of private experiences, rather than suppression, may be a useful strategy for decreasing subjective anxiety, fear, and task avoidance.

Exploring Insight and Avoidance in the Written Disclosure Paradigm

One proxy for exploring these explanatory models is the written disclosure procedure (Pennebaker, 1997). While written disclosure is not identical to psychotherapy, certain aspects of writing studies mirror therapeutic interactions. For example, a warm environment is created and maintained. Participants are assured of the confidentiality of their writing. Rapport is established as the experimenter communicates friendliness and support.

Written disclosure further mirrors therapy in its involvement with difficult emotional material. Following rapport-building, participants are asked to “really let go and explore your very deepest emotions and thoughts” (Pennebaker, 1994). Similarly to therapeutic discussions of personal struggles, participants are asked to delve into their deepest emotions and thoughts, and write about their most traumatic, stressful, or emotional event for 15 to 20 minutes across three to five consecutive days (Pennebaker, 1994).

Experimental manipulation of the spacing of writing sessions (i.e., three 15-minute writing sessions spaced by breaks of 10-minutes, 35-minutes, or 24-hours) has revealed comparable effects for physical symptoms (Chung & Pennebaker, 2008).

Benefits of written disclosure. The benefits of expressive writing have been summarized in several literature reviews (Baikie & Wilhelm, 2005; Corter & Petrie, 2011; Frattaroli, 2006; Pennebaker & Chung, in press). Physical health benefits include improved liver and lung function (Francis & Pennebaker, 1992; Smyth et al., 1999, respectively), increased immune system functioning (Booth et al., 1997; Esterling et al., 1994; Pennebaker et al., 1988; Petrie et al., 1995, 1998, 2004), reduced blood pressure (Davidson et al., 2002), fewer health center visits (Pennebaker et al., 1988; Pennebaker & Beall, 1986; Pennebaker & Francis, 1996), fewer days in the hospital (Norman et al., 2004), and fewer reported health problems (Pennebaker & Beall, 1986).

Psychological benefits include improved mood and affect (Pennebaker et al., 1988), improved feeling of psychological health, improved working memory (Klein & Boals, 2001), and enhanced social communication (Pennebaker & Graybeal, 2001). Occupational and academic benefits include fewer days out of work (Francis & Pennebaker, 1992), faster re-employment after job loss (Spera et al., 1994), improved adjustment to college (Pennebaker et al., 1990), and increased grade point averages for students (Pennebaker & Francis, 1996).

Given the beneficial results of expressive writing commonly found among healthy participants, exploration of this paradigm was applied to broader populations. This expansion resulted in mixed and equivocal results, with some studies adding support to the benefits of emotional disclosure and a few others finding a detrimental effect (Cortier & Petrie, 2011). Several meta-analyses were conducted to shed light on the overall effect of the writing paradigm (Frattaroli, 2006; Frisina, Borod, & Lepore, 2004; Harris, 2006; Meads & Nouwen, 2005; Smyth, 1998).

Meta-analyses have revealed significant benefits for clinical and nonclinical populations (Frisina et al., 2004; Smyth, 1998). The meta-analysis of 13 written disclosure studies conducted by Smyth (1998) revealed an overall effect size of .47, which indicated 23 percent improvement in disclosure conditions when compared to control conditions. In clinical populations, including medical and psychiatric participants, significant physical health benefits have been found. In nonclinical populations, benefits were found for objective and self-reported physical health, physiological and general functioning outcomes, and psychological health.

Separate analyses of the medical and psychiatric groups revealed positive physical health outcomes for specific medical populations, which included: individuals with cancer, asthma (Smyth et al., 1999), cystic fibrosis, rheumatoid arthritis, HIV infection (Petrie et al., 2004), and chronic pelvic pain (Norman et al., 2004). Although benefits for psychological outcomes of psychiatric participants within the clinical populations aforementioned did not reach significance, results suggested a trend in that direction (Baikie & Wilhelm, 2005).

Frattaroli (2006) has published the largest meta-analysis with an inclusion criteria of all randomized expressive writing experiments ($N = 146$). Employing a random effects approach, Frattaroli (2006) found a significant and positive average r -effect size of .075 ($d = .15$) for emotional disclosure – an effect size, which is comparable to effect sizes seen in psychotherapy and common medical interventions (e.g., aspirin for heart attack prevention).

Not all accrue expected benefits. While numerous psychological and physiological benefits for written disclosure participants have been reported, several studies suggested that not everyone benefits from writing about traumatic or emotional events (Baikie & Wilhelm, 2005). For example, individuals who wrote about bereavement, childhood sexual abuse, and post-traumatic stress related to the Vietnam War did not show significant benefits (Batten et al., 2002; Gidron et al., 1996; Stroebe et al., 2002). Although it appears that individuals with more severe trauma and/or symptoms gain greater psychological benefits from the writing paradigm, results are mixed (Baikie & Wilhelm, 2005).

How does it work? Equivocal results challenged researchers to examine how expressive writing works, when it is most useful, and for whom it is most applicable (Pennebaker, 2004; Sloan & Marx, 2004). Researchers have explored the relationships between expressive writing benefits and numerous variables including age, ethnicity, gender, trauma history, illness severity, negative affect, writing instructions, and number and duration of writing sessions (Baikie & Wilhelm, 2005; Sloan & Marx, 2004; Smyth, 1998). Moderators have been identified. Expressive writing has been shown to be most beneficial for those with a history of trauma or physical health problems, those completing writing at home, those with greater privacy during writing, and those who were high stress-low optimism (Frattaroli, 2006).

Prior studies provide a useful addition to the expressive writing literature; however, a psychological theory organizing empirical investigations has been absent. Researchers have asserted that conceptual agendas should drive research in order to test and compare the veracity of differing theoretical models (David & Montgomery, 2011; Kazdin, 2007a; Lilienfield, 2011; Wilson, 1997).

Investigations of discrete variables have shed some light on why expressive writing works, yet there is not a clear and consistent theoretical explanation accounting for mixed findings. Researchers have placed much importance upon developing an overarching psychological model to account for positive *and* negative outcomes. Furthermore, in addition to outcome data, theoretically justified change process variables ought to be examined (Haaga, 2004; Hayes, 1997; Hayes et al., 2006; Kazdin, 2007b; Wilson, 1997). Therefore, it is reasonable to focus efforts toward more theory-driven studies (Pennebaker, 2004).

CURRENT STUDY

While understanding personal emotions appears to be an important process for psychological health, no studies have investigated the role of emotional clarity within written disclosure. From a psychodynamic or cognitive perspective, insight or clarity would be essential in one's psychological processing of traumatic events. From a behavioral perspective, clarity alone may not be sufficient to improve psychological well-being if a person is experientially avoidant. A person with panic disorder might have incredible clarity about their emotional state, but the benefits of clarity may be reduced if they engage in experiential avoidance.

Mindfulness research has revealed that “just noticing” emotions can be maladaptive, if it occurs in a reactive and judgmental manner (Baer et al., 2008; Sauer & Baer, 2010). It is a particular type of noticing – on purpose, flexible, focused, nonjudgmental, and nonreactive – where psychological health occurs (Baer, 2003; Kabat-Zinn, 2003). Therefore, willingness to openly contact difficult emotional content, or experiential acceptance, may play an integral role in positive outcomes.

Hypotheses

The present study examined the effectiveness and process components, of an expressive writing manipulation to reduce psychological distress in a college sample that has experienced a traumatic or emotionally upsetting event. Additionally, it investigated the relative contributions of emotional insight and experiential avoidance to writing study outcome and process.

Manipulation check. In order to ensure that experimental participants were engaged in the writing task, we assessed word counts indicating engaged writing (i.e., positive emotion, negative emotion, insight-related, and causal-related words). We expected to find that individuals in the expressive writing condition would display a higher percentage of total engagement words across three writings, compared to the control group.

Psychological distress. Because the literature has generally supported the psychological benefits of expressive writing, this study assessed the hypothesis that the expressive writing group would report significantly less psychological distress one week after writing, compared to the control group.

Emotional insight. Given that emotional insight, as measured by the emotional clarity subscale of the TMMS, has been found to be correlated with psychological health (Ciarrochi et al., 2006; Salovey et al., 1995), this study attempted to replicate the finding by testing whether pre-writing scores of emotional clarity predicted a significant amount of variance for psychological distress change as measured by the Outcome Questionnaire-45.2 (OQ-45.2).

Experiential avoidance. Experiential avoidance, as measured by the Acceptance and Action Questionnaire (AAQ), has been found to be positively correlated with depression and anxiety (Hayes et al., 2004). The current study attempted to replicate this finding by testing whether pre-writing scores of experiential avoidance predicted a significant amount of variance for psychological distress change as measured by the OQ-45.2.

METHOD

Participants

Participants included undergraduate students ($N=133$, 94 women, 39 men) enrolled in psychology classes at a large public southeastern university. They received four hours of extra credit toward course requirements for their participation. The age of participants ranged from 18-29 ($M = 19.03$, $SD = 1.45$). The ethnicity of participants was as follows: 78.9% Caucasian, 17.3% African American, 1.5% Hispanic/Latino, 1.5% Other, and .8% Asian/Pacific Islander.

Measures

Demographics. Sex, age, major, and ethnicity were collected from each participant (Appendix A).

Emotional insight. Emotional insight was measured by the Clarity subscale of the Trait Meta Mood Scale (TMMS, Salovey et al., 1995, Appendix B). The subscale contains 11 items (e.g., *I am rarely confused by how I feel.*) and items are measured on a 5-point Likert-type scale ranging from *strongly disagree* (1 point) to *strongly agree* (5 points), with a total score range of 11 to 55. The Clarity subscale of the TMMS measures self-reports of the ability to discriminate among feelings. Higher scores on the Clarity subscale indicate higher levels of clarity (11 = confused, 33 = growing clarity, 55 = excellent clarity; Salovey et al., 1995).

Clarity scores are inversely related to depression, neuroticism, distress, and ambivalence over emotional expression. Clarity is also correlated with the tendency to rebound from negative mood (Salovey et al., 1995). The Clarity subscale of the TMMS has adequate internal consistency with a coefficient alpha of .88. In the current sample, the alpha coefficient was .82.

Experiential avoidance. Avoidance was measured using the Acceptance and Action Questionnaire-22 (AAQ-22, Hayes et al., 2004, Appendix C). The AAQ is a 22-item measure (e.g., *If I could magically remove all the painful experiences I've had in my life, I would do so.*) and using a 7-point Likert-type scale ranging from *never true* (1 point) to *always true* (7 points), with a total score range of 22 to 154. The AAQ-22 used in this study employs the single-factor solution, measuring psychological flexibility. Higher scores on the AAQ-22 indicate higher levels of experiential avoidance. Test-retest reliability of the AAQ in an undergraduate sample ($N=290$) was .64 after a four month interval (Hayes et al., 2004). The AAQ has a moderate relationship with other measures of psychological outcome, with a weighted effect size of .42 (Hayes et al., 2006). In a study conducted with nonclinical adults in occupational settings, internal consistency of a shorter iteration of this measure, the AAQ-16, was adequate for research purposes with alpha coefficients between .72 and .79 (Bond & Bunce, 2003). In the current sample, the alpha coefficient at pre-writing was .55 and .51 at post-writing, which was notably low.

Engaged writing. Narrative analyses using the Linguistic Inquiry and Word Count program (LIWC 2007 Manual; Pennebaker, Chung, Ireland, Gonzales, & Booth, 2007) were conducted to determine the extent to which participants engaged in writing about an emotional or traumatic event.

Results of previous writing studies suggest that the following linguistic categories occur in disclosure conditions as compared to control conditions: positive emotion words, negative emotion words, insight-related words, and causal-related words (Pennebaker & Francis, 1996).

Systematic differences in the mean percentage of total words for each category have been reported for the narratives of expressive versus control participants: 3.28% versus 1.83% positive emotion, 2.67% versus 0.71% negative emotion, 3.25% versus 1.31% insight, and 1.85% versus 1.28% causal (Pennebaker et al., 2007).

Psychological distress. Distress was measured by the Outcome Questionnaire-45.2 (OQ-45.2, Lambert & Finch, 1999, Appendix D). The OQ-45.2 is a 45-item measure that consists of three subscales: symptomatic distress (e.g., *I have difficulty concentrating*), interpersonal relationships (e.g., *I get along with others*), and social role performance (e.g., *I feel stressed at work/school*). Items are measured on a 4-point Likert-type scale ranging from *never* (0 points) to *almost always* (4 points), with a total score range of 0 to 180. While the OQ-45.2 is typically used to measure overall psychological distress, it can also track progress in therapy. Higher scores on the OQ-45.2 indicate higher levels of distress, with a clinical cutoff score of 63. The OQ-45.2 appears to be a reliable and valid measure of psychological distress (Lambert & Finch, 1999). In the current sample, the alpha coefficient was .92 at pre-writing and .94 at post-writing, indicating good internal consistency.

Procedure

Upon arrival, participants were guided to a classroom, consented to the study (Appendix E), given an overview of the study (Appendix F), and assigned a participant number as to ensure confidentiality. Participants were told that they were taking part in an important study dealing with writing.

Before writing, participants completed the following self-report measures: Demographics, Trait Meta Mood Scale (TMMS), Acceptance and Action Questionnaire-22 (AAQ-22), and the Outcome Questionnaire 45.2 (OQ-45.2).

Each participant met individually with a warm and friendly experimenter in a private office to receive writing instructions. Participants were randomly assigned to either the control writing condition (contents of house; Appendix G) or expressive writing condition (most traumatic, upsetting experience; Appendix H). Time was spent with each of the participants prior to each writing to establish rapport. Questions such as “How are you today?” and “How is school going?” were asked by the experimenter.

Participants were then asked to write about their assigned topic for three 20-minute writing sessions. Participants were also told that they would briefly check-in with the experimenter between each writing session. This was done in an effort to maintain rapport and ensure integrity of each writing condition. After the third and final writing session, each participant met individually with the experimenter and asked about any reactions to the study.

All participants were given telephone numbers of the Psychological Services Center and University Counseling Center on campus in the event that they experienced distress or desired to speak with a professional. Participants were thanked for their time and effort, and instructed to return in one week to complete a self-report measure of psychological well-being: the Outcome Questionnaire 45.2 (OQ-45.2). After completion of the OQ-45.2, participants were debriefed on the nature of the study (Appendix I).

RESULTS

Data Analysis Strategy

Removal of outliers. Prior to main analyses, IV and DV values were examined to determine the accuracy of data entry. All data were screened to detect values outside the range of possibility. Mahalanobis distance detected two extreme outliers, which we excluded from analyses. We used an alpha level of .05 to assess the significance of all statistical comparisons.

Equivalence of groups. Experimental and control conditions were examined for differences on pre-writing measures of emotional clarity, experiential avoidance, and psychological distress using independent samples t-tests. Group differences at the pre measurement point were used to determine if use of pre-scores as covariates was warranted.

Manipulation check. Narrative word counts were examined as a check on the independent variable in the expressive writing condition. An independent samples t-test was conducted to indicate whether the expressive writing group engaged in the expressive writing task as instructed as compared to the control group. Engaged writing was defined as the sum of the percentage of total engagement words (positive emotion, negative emotion, insight-related, and causal-related words) across the three 20-minute writings.

Impact of writing on psychological distress. A one-way between-groups analysis of covariance was performed in order to determine if expressive writing produced expected reductions in psychological distress after one week. The independent variable was the type of writing condition (control topic, expressive topic), and the dependent variable consisted of scores on the Outcome Questionnaire-45.2 (OQ-45.2) one week post-writing task. Participants' scores on the pre-writing administration of the OQ-45.2 were used as a covariate in the analysis to account for pre-existing distress.

Preliminary examination of correlations. In preparation for regression analyses on the impact of the independent variables (emotional clarity, experiential avoidance, writing condition) on dependent variables (engaged writing, psychological distress), the relationship among these variables was examined using Pearson product-moment correlation coefficients.

Regression analyses. Regression analyses were conducted to evaluate emotional clarity and experiential avoidance as predictors of psychological distress change. Given that pre- and post-scores of experiential avoidance were available within this data set, *experiential avoidance change* was also evaluated as a predictor of psychological distress change. The measure of emotional clarity was only administered prior to the experimental task making the examination of change scores on that variable unavailable.

Pre-Experimental Group Equivalence

Independent-samples t-tests were conducted to compare scores on pre-writing measures of emotional clarity, experiential avoidance, and psychological distress for the expressive ($N = 79$; 56 women, 23 men) and control ($N = 54$; 38 women, 16 men) writing groups (Table 1).

There was no significant difference in emotional clarity between the expressive ($M = 38.15$, $SD = 7.37$) and control writing groups ($M = 40.17$, $SD = 6.40$), $t(131) = 1.63$, $p = .11$. (two-tailed). The magnitude in the differences in the means (mean difference = 2.01, 95% CI: -.43 to 4.46) was small (eta squared = .02).

There was no significant difference in experiential avoidance between the expressive ($M = 82.91$, $SD = 9.41$) and control writing groups ($M = 82.62$, $SD = 9.02$), $t(131) = -.175$, $p = .86$. (two-tailed). The magnitude in the differences in the means (mean difference = -.287, 95% CI: -3.52 to 2.94) was very small (eta squared = .00).

There was no significant difference in psychological distress between the expressive ($M = 45.42$, $SD = 18.77$) and control writing groups ($M = 50.99$, $SD = 19.44$), $t(131) = 1.66$, $p = .10$. (two-tailed). The magnitude in the differences in the means (mean difference = 5.57, 95% CI: -1.07 to 12.22) was small (eta squared = .02). Since there were no significant differences in pre-writing measures between groups, the measures were not retained as covariates in subsequent analyses.

Manipulation Check

An independent samples t-test was conducted to compare engaged writing for the expressive and control writing conditions. There was a significant difference in engaged writing with a higher total percentage for the expressive condition (Table 2, $M = 33.43\%$, $SD = 5.51\%$) as compared to the control condition ($M = 11.26\%$, $SD = 4.76\%$), $t(131) = -24.03$, $p = .00$ (two-tailed). The magnitude of the differences in the means (mean difference = -22.17, 95% CI: -23.99 to -20.34) was very large (eta squared = .82).

Impact of Writing on Psychological Distress

A one-way between-groups analysis of covariance was conducted to compare the effects of writing on the two groups one week following the writing tasks. Preliminary checks were conducted to ensure that there was no violation of the assumptions of normality, linearity, homogeneity of variance, homogeneity of regression slopes, and reliable measurement of the covariate. Although there was a reduction in distress for those who wrote about a traumatic event, after adjusting for pre-writing distress, there was no significant difference between the expressive group ($M = 41.53$, $SD = 21.76$) and control group ($M = 46.68$, $SD = 19.64$) on the Outcome Questionnaire-45.2, $F(1, 130) = .36$, $p = .55$, partial eta squared = .00 (Table 3).

Correlations

Correlations between demographic, independent, and dependent variables are presented in Table 4. Regarding demographic variables, there was a small, positive correlation between age and psychological distress pre-experimental manipulation ($r = .18$, $p = .05$). Greater age was associated with higher levels of psychological distress. There was a small, negative correlation between gender and clarity ($r = -.25$, $p = .01$). Male gender was associated with higher levels of emotional clarity.

There were minimal relationships between the independent variables (clarity, avoidance) and dependent variable (psychological distress change). However, a small, negative correlation was observed between psychological distress prior to writing manipulation and engaged writing ($r = -.19$, $p = .05$). Higher levels of psychological distress were associated with lower levels of writing engagement.

Given the lack of significant correlations between the independent and dependent variables, relationships between clarity, avoidance, and distress were examined prior to the writing manipulation. There was a moderate, negative correlation between clarity and avoidance ($r = -.47, p = .01$). A moderate, negative correlation was also observed between clarity and psychological distress ($r = -.45, p = .01$). Higher levels of clarity were associated with lower levels of avoidance and higher levels of psychological distress. There was a moderate, positive correlation between avoidance and psychological distress ($r = .43, p = .01$). Higher levels of avoidance were associated with higher levels of psychological distress.

Of mention, psychological distress change scores displayed a small, positive correlation with avoidance change scores ($r = .19, p = .05$). Greater reductions in distress from pre to post were associated with greater reductions in avoidance from pre to post.

Regression

Given that there were no group differences on psychological distress for writing condition, and, pre-writing measures of emotional clarity and experiential avoidance had extremely small correlations with psychological distress change ($r = -.06; r = .03$, respectively), regression analyses were conducted on pre-existing relationships found in the entire sample. Correlations were examined prior to regression analyses to ensure at least a small relationship ($r = \pm .10$ or higher) between the independent and dependent variables.

Measures of emotional clarity and experiential avoidance were moderately correlated with psychological distress pre and post, indicating notable existing relationships (Table 4). Standard multiple regression was conducted to evaluate emotional clarity and experiential avoidance as predictors of psychological distress prior to the writing manipulation.

Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. The overall regression model was statistically significant, explaining 26.4% of the variance in psychological distress, $F(2, 130) = 23.34, p < .001$ (Table 5). Both clarity and avoidance were statistically significant, with emotional clarity recording a slightly higher beta value ($\beta = -.32, p < .001$) than experiential avoidance ($\beta = .28, p = .001$).

Given the small yet significant correlation between the two change scores, experiential avoidance change was also used to predict psychological distress change. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. The overall regression model was statistically significant, indicating that positive change in experiential avoidance predicted positive change in psychological distress, $F(1, 131) = 4.97, p = .028, R^2 = .04$. Participants reporting decreased experiential avoidance at one-week post-writing were more likely to report decreased psychological distress from pre to post, $\beta = .19, t(-5) = 2.23, p = .03, pr^2 = .04$.

DISCUSSION

Writing about traumatic events has been linked to psychological and physiological health for a diversity of populations. Little is known about specific mechanisms that influence and predict psychological and physiological benefits for those who disclose through writing. The current study attempted to examine the effectiveness, as well as narrative process, of an expressive writing intervention for college students that experienced a traumatic or emotionally upsetting event.

It was predicted that written emotional disclosure, as compared to a control writing topic, would result in decreased psychological distress one week post-writing task. Additionally, it was predicted that emotional clarity and experiential avoidance at pre-writing would be significant predictors of psychological distress change over the course of the expressive writing task.

With regard to within-group change, both writing conditions displayed decreased psychological distress measured at one week post. Between-groups, the expressive group had a slightly larger reduction in mean distress scores from pre-writing to post-writing; however, this decrease was not statistically significantly different from the control group. Given there was a reduction in distress for both groups, it would be interesting to examine whether reductions in distress continue across following weeks.

In examination of writing engagement, participants who wrote about a traumatic, upsetting event employed a statistically significant greater number of engagement words in their writings, compared to participants that wrote about the contents of their house. These results indicate that participants in the expressive writing condition followed instructions to “*really let go and explore ... (their) very deepest emotions and thoughts*”.

Neither emotional clarity nor experiential avoidance contributed differentially to psychological distress change post-writing manipulation. However, emotional clarity and experiential avoidance demonstrated pre-existing statistically significant relationships with psychological distress. This finding is consistent with the literature. When entered into a regression model, clarity and avoidance each accounted for a significant amount of variance in psychological distress. Additionally, avoidance change accounted for a significant amount of variance in psychological distress change. While the experimental writing task did not have a direct effect on avoidance scores, this finding indicates that the relationship between these change processes may be important for psychological health.

Limitations and Future Directions

Problems with the AAQ. One primary limitation of the current study is the suspect scale reliability of the version of the Acceptance and Action Questionnaire (AAQ) used. Alpha coefficients were notably low for the AAQ-22 at pre- and post-writing (.55 and .51, respectively). At the time of this study, the AAQ was under development and the AAQ-22 was the most recent iteration.

Since the current study, refined iterations of the AAQ have been developed and examined for validity and reliability. The AAQ-16 has demonstrated alpha coefficients within the low to high .70s (Bond & Bunce, 2003) and test-retest reliability of .64 at four months (Hayes et al., 2004). The current gold standard of the AAQ is the AAQ-II, which is a seven-item measure with substantially improved validity and reliability (Bond et al., in press). Validation samples revealed a mean alpha coefficient of .84 and test-retest reliability of .81 at three months and .79 at 12 months (Bond et al., in press). Relationships between the independent and dependent variables may be clearer with a more adequate version of the AAQ.

Problems with the TMMS. At the time this study was developed, the TMMS was understood to be a stable measure of a personality trait; therefore, it was not administered post writing task. While this assumption coincides with what personality researchers assert within the literature, is it warranted to assume that it is stable? Some researchers may argue that the TMMS is stable regardless of what happens; however, future studies should test this assumption.

Length of follow-up. Administration of follow-up assessment measures occurred at one week after the writing task. Significant differences between groups may become more apparent at two weeks up to a month after the writing intervention. Meta-analyses of the writing paradigm indicate that benefits extend up to one month after writing, followed by a fading effect, with the largest effect sizes found for short-term follow-ups within one month of disclosure (Frattoroli, 2006).

A more recent writing study directly examined the durability of psychological benefits associated with expressive writing in a sample of sixty-eight undergraduates (Sloan, Feinstein, & Marx, 2009). Assessments were administered at two, four, and six months after participants were assigned to either an expressive writing or control writing condition. Those assigned to expressive writing reported less depression at the two-month follow-up compared to the control; however, reductions in depressive symptoms were not observed at the four- or six-month follow-up assessments (Sloan et al., 2009).

Clinical versus nonclinical samples. In the current sample, only one-third met the clinical cutoff on the OQ-45.2, indicating distress. Participants in the expressive writing condition appeared to engage in the task, yet we did not see the outcomes typically seen in written disclosure. It may be that distress is low enough in our overall sample (i.e., restricted range) that we experienced a floor effect for distress change.

Distress as an outcome measure. Given the low level of psychological distress in our sample, it is questionable whether distress is the best measure of outcome. The OQ-45.2 may not be sensitive to change in this range of distress. Future studies should investigate the addition of broader outcome measures, such as quality of life, meaning in life, or engagement in values-based life activities, which may be more appropriate for our college sample. Researchers should examine whether or not these broader assessments enhance the understanding of outcomes beyond traditional symptom measures (Arch & Craske, 2008).

Difficulty of interpreting process effects with null treatment effects. Without a treatment effect, it is hard to test a process effect. In the current sample, it is hard to say whether this is a fair test of the process because the outcome was atypical, calling the process into question. However, given the literature, the process account is granted more credibility.

Limited changes in AAQ scores are associated with limited changes in other measures of psychological outcome (Hayes et al., 2006). Sample, measurement, or procedural variables may have influenced the lack of replication of writing paradigm associated psychological health improvements within the current sample.

Conclusions

There has been growing interest in written emotional disclosure. While most individuals who write about traumatic, emotionally upsetting events appear to accrue numerous psychological and physiological benefits, the processes by which individuals accrue such benefits are not clear. Our findings raise more questions than they answer about emotional disclosure. Future research on theoretically driven processes is necessary to unravel the mechanisms of action in the writing paradigm so it may produce the greatest benefits for as many people as possible.

Within this study, there was a small yet statistically significant positive relationship between changes in experiential avoidance and psychological distress. This study did not directly intervene on experiential avoidance; however, correlations and regression analyses indicate that changes in experiential avoidance have potential to directly influence changes in psychological distress and possibly vice versa. Future studies that investigate and directly manipulate the relationship between avoidance and distress will be helpful in understanding the directional nature of these change processes.

It is also important to examine how changes in clarity relate to changes in distress and changes in avoidance. Given the moderate, negative relationship that clarity had with distress and avoidance, improvements in clarity may result in reductions in distress and avoidance. Reductions in avoidance may also result in increased clarity and reduced distress. Again, the direction of these change processes is an empirical question that needs to be tested.

Table 1

Means and Standard Deviations for Independent Variables Pre-Writing Manipulation Across Conditions

Condition	Expressive	Control
TMMS-Clarity	38.15 (7.37)	40.17 (6.40)
AAQ-22	82.91 (9.41)	82.62 (9.02)
OQ-45.2	45.42 (18.77)	50.99 (19.44)

Table 2

Means and Standard Deviations for the Total Percentage of Engagement Words in Narratives Across Conditions

Condition	Expressive	Control
Total Engaged Words	33.43% (5.51%)	11.26% (4.76%)
Positive Emotion Words	9.21% (2.80%)	5.39% (2.76%)
Negative Emotion Words	9.31% (2.42%)	1.52% (1.04%)
Insight-Related Words	9.27% (2.80%)	1.82% (1.29%)
Causal-Related Words	5.63% (1.59%)	2.51% (1.40%)

Table 3

Means and Standard Deviations for Psychological Distress Pre- and Post-Writing Manipulation Across Conditions

Condition	Pre OQ-45.2	Post OQ-45.2
Expressive	46.35 (18.28)	41.53 (21.76)
Control	50.67 (19.33)	46.68 (19.64)

Table 4

Pearson Product-Moment Correlations Between Demographic, Independent, and Dependent Variables

Scale	1	2	3	4	5	6	7	8	9	10
1. Age	----	-.03	.05	-.04	.18*	.02	.08	.08	-.14	-.06
2. Gender	----	----	-.25**	.03	.02	.05	-.03	.03	-.08	.06
3. Pre-Clarity	----	----	----	-.47**	-.45**	-.50**	.44**	.01	-.06	-.06
4. Pre-Avoidance	----	----	----	----	.43**	.76**	.40**	-.45**	.03	-.01
5. Pre-Distress	----	----	----	----	----	.45**	.79**	-.03	-.16	-.19*
6. Post-Avoidance	----	----	----	----	----	----	.51**	.25**	.18*	-.02
7. Post-Distress	----	----	----	----	----	----	----	.09	.48**	-.13
8. Avoidance change	----	----	----	----	----	----	----	----	.19*	-.01
9. Distress change	----	----	----	----	----	----	----	----	----	.06
10. Engaged Writing	----	----	----	----	----	----	----	----	----	----

* $p = .05$ (two-tailed); ** $p = .01$ (two-tailed).

Table 5

Predictors of Psychological Distress Pre-Writing Manipulation

<i>Psychological distress</i>				
<i>Variable</i>	β	R^2 (Adj. R^2)	<i>Change R^2</i>	<i>Overall F</i>
<i>Overall Model</i>		.26 (.25)	.26	$F(2, 130) = 23.34$
Emotional Clarity	-0.32**			
Experiential Avoidance	0.28*			

* $p = .001$; ** $p < .001$

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LIST OF APPENDICES

Appendix A

Demographic Information

Sex: M F

Age: _____

Major: _____

Race:

____ Asian/Pacific Islander

____ Black/African American

____ Hispanic/Latino

____ White/Caucasian

____ Other: _____

Appendix B

Clarity Subscale of the Trait Meta-Mood Scale

Please read each statement and decide whether or not you agree with it. Place a number in the blank line next to each statement using the following scale:

- 5 = strongly agree
- 4 = somewhat agree
- 3 = neither agree nor disagree
- 2 = somewhat disagree
- 1 = strongly disagree

- _____ 1. I try to think good thoughts no matter how badly I feel.
- _____ 2. People would be better off if they felt less and thought more.
- _____ 3. I don't think it's worth paying attention to your emotions or moods.
- _____ 4. I don't usually care much about what I'm feeling.
- _____ **5. Sometimes I can't tell what my feelings are.**
- _____ **6. I am rarely confused about how I feel.**
- _____ 7. Feelings give direction to life.
- _____ 8. Although I am sometimes sad, I have a mostly optimistic outlook.
- _____ 9. When I am upset I realize that the "good things in life" are illusions.
- _____ 10. I believe in acting from the heart.
- _____ **11. I can never tell how I feel.**
- _____ 12. The best way for me to handle my feelings is to experience them to the fullest.
- _____ 13. When I become upset I remind myself of all the pleasures in life.
- _____ **14. My belief and opinions always seem to change depending on how I feel.**
- _____ **15. I am often aware of my feelings on a matter.**
- _____ **16. I am usually confused about how I feel.**
- _____ 17. One should never be guided by emotions.
- _____ 18. I never give in to my emotions.
- _____ 19. Although I am sometimes happy, I have a mostly pessimistic outlook.
- _____ **20. I feel at ease about my emotions.**
- _____ 21. I pay a lot of attention to how I feel.
- _____ **22. I can't make sense out of my feelings.**
- _____ 23. I don't pay much attention to my feelings.
- _____ 24. I often think about my feelings.
- _____ **25. I am usually very clear about my feelings.**
- _____ 26. No matter how badly I feel, I try to think about pleasant things.
- _____ 27. Feelings are a weakness humans have.
- _____ **28. I usually know my feelings about a matter.**
- _____ 29. It is usually a waste of time to think about your emotions.
- _____ **30. I almost always know exactly how I am feeling.**

Appendix C

Acceptance and Action Questionnaire-22

Below you will find a list of statements. Please rate the truth of each statement as it applies to you. Use the following scale to make your choice.

1-----	2-----	3-----	4-----	5-----	6-----	7-----
never	very seldom	seldom	sometimes	frequently	almost always	always
true	true	true	true	true	true	true

- _____ 1. Thoughts can be dangerous.
- _____ 2. When I feel depressed or anxious, I can still take care of my responsibilities.
- _____ 3. Anxiety is bad.
- _____ 4. I do not try to change my unhappy, or fearful, thoughts.
- _____ 5. If I promised to do something, I'll do it, even if later I don't feel like it.
- _____ 6. I can't do things, if I am unhappy.
- _____ 7. It is more important to move towards my goals, than to feel good.
- _____ 8. My thoughts and feelings can get in the way of my success.
- _____ 9. There is nothing wrong with having unhappy thoughts and feelings.
- _____ 10. I try to achieve my goals, even if I am uncertain that I can.
- _____ 11. If I feel fearful, then there is really something to be fearful about.
- _____ 12. Just because I feel unhappy, it does not mean that there is something to be unhappy about.
- _____ 13. If I value something, I'll work for it, even if I disappoint people by doing so.
- _____ 14. If I get bored of something, I stop doing it.
- _____ 15. I get on with my life, rather than struggle with my worries or unhappiness.
- _____ 16. When I am right about something, people should know it.
- _____ 17. The greater my worries or anxieties become, the more concerned I get for myself.
- _____ 18. Even if I fear I may get it wrong, I can still take action on a problem.
- _____ 19. Before having an important conversation with someone, I try to anticipate what that person will say and do.
- _____ 20. I work hard to make sure that people understand me.
- _____ 21. My worries are like some Hollywood films, they are about fearful events, but they are not actually the events themselves.
- _____ 22. I should act according to my feelings at the time.

Appendix D

Outcome Questionnaire-45.2

Instructions: Looking back over the last week, including today, help us understand how you have been feeling. Read each item carefully and mark the box under the category which best describes your current situation. For this questionnaire, work is defined as employment, school, housework, volunteer work, and so forth. Please do not make any marks in the shaded areas.

	Never	Rarely	Sometimes	Frequently	Almost Always
1. I get along well with others.	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
2. I tire quickly.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
3. I feel no interest in things.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
4. I feel stressed at work/school.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
5. I blame myself for things.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
6. I feel irritated.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
7. I feel unhappy in my marriage/significant relationship.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
8. I have thoughts of ending my life.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
9. I feel weak.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
10. I feel fearful.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
11. After heavy drinking, I need a drink the next morning to get going. (If you do not drink, mark "never")	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
12. I find my work/school satisfying.	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
13. I am a happy person.	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
14. I work/study too much.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
15. I feel worthless.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
16. I am concerned about family troubles.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
17. I have an unfulfilling sex life.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
18. I feel lonely.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
19. I have frequent arguments.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
20. I feel loved and wanted.	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
21. I enjoy my spare time.	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
22. I have difficulty concentrating.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
23. I feel hopeless about the future.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
24. I like myself.	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
25. Disturbing thoughts come into my mind that I cannot get rid of.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
26. I feel annoyed by people who criticize my drinking (or drug use). (If not applicable, mark "never")	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
27. I have an upset stomach.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
28. I am not working/studying as well as I used to.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
29. My heart pounds too much.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
30. I have trouble getting along with friends and close acquaintances.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
31. I am satisfied with my life.	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
32. I have trouble at work/school because of drinking or drug use. (If not applicable, mark "never")	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
33. I feel that something bad is going to happen.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
34. I have sore muscles.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
35. I feel afraid of open spaces, of driving, or being on buses, subways, and so forth.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
36. I feel nervous.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
37. I feel my love relationships are full and complete.	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
38. I feel that I am not doing well at work/school.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
39. I have too many disagreements at work/school.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
40. I feel something is wrong with my mind.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
41. I have trouble falling asleep or staying asleep.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
42. I feel blue.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
43. I am satisfied with my relationships with others.	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
44. I feel angry enough at work/school to do something I might regret.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
45. I have headaches.	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4

Appendix E

Informed Consent

Consent to Participate in an Experimental Study

Title: Investigating the Emotional Writing Paradigm

Investigator:

Stephanie L. Nassar
Department of Psychology
The University of Mississippi
111 Peabody Building
University, MS 38677

Sponsor:

Kelly G. Wilson, Ph.D.
Department of Psychology
The University of Mississippi
310E/310C Peabody Building
University, MS 38677

Description:

In this study, you will be asked to complete three twenty minute writing sessions in which you are to write about yourselves or some topic regarding your life. The topics you will be assigned to write about may range from describing your living quarters to writing about a personal trauma or event that has happened to you or someone you know. The three twenty minute sessions will be completed over the course of the next three consecutive days counting today. Each day you will come in and meet with an experimenter, who will then lead you to a room so that you may begin writing about your assigned topic. Upon completion of the writing portion of the experiment you will meet with an experimenter afterwards to discuss the study. In addition, you will also be asked to fill out questionnaires about yourself at the beginning of the study as well as one week from completion of the study. These surveys will ask you to list traumatic and extremely stressful experiences you have had, ask questions about your mental health, and also about your emotions. The total time commitment of this study will be spent on the following: two hours of filling out questionnaires, one hour of writing about your assigned topic, and up to one hour of meeting with an experimenter for a total of four hours.

Risks and Benefits:

Previous research in which participants have written about difficult emotional events has indicated that some people may be upset emotionally for a brief period following the writing assignment. While these experiences tend to be mild and brief, you will be provided with information regarding possible contacts if you wish to talk with someone regarding feelings associated with your participation.

Costs and Payments:

Other than the contribution of your time, there are no costs for helping us with this study. With regards to compensation, you will receive four hours of experimental credit.

Confidentiality:

We will not put your name on any of your materials. The only information that will be on your test materials will be a four digit ID number that we will assign to you. All of your data will remain confidential.

Right to Withdraw:

You do not have to take part in this study. If you start the study and decide that you do not want to finish, all you have to do is tell Stephanie Nassar or Dr. Kelly Wilson in person, by letter, or by telephone at the Department of Psychology, 201 Peabody Hall, The University of Mississippi, MS 38677, or 915-5256. Whether or not you choose to participate will not affect your standing with the Department of Psychology, or with the University, and it will not cause you to lose any benefits to which you are entitled.

IRB Approval:

The University of Mississippi's Institutional Review Board (IRB) has reviewed the study. The IRB has determined that this study meets the ethical obligations required by federal law and University policies. If you have any questions, concerns or reports regarding this study, please contact the IRB at (662) 915-3929.

Statement of Consent:

I have read the above information. I have been given a copy of this form. I have had an opportunity to ask questions, and I have received answers. I consent to participate in the study.

Signature: _____ Date: _____

Signature of Investigator: _____ Date: _____

Appendix F

Study Overview

This study is an extremely important project looking at writing. Today, you will be asked to write about one of several different topics for 20 minutes. You will first complete a packet of questionnaires then come back to this office where I will talk with you and give you your instructions for the day. You will then be escorted to a room where you will be alone to write. The person who takes you to the room will close the door, which will be your signal to begin writing. At the end of the 20 minutes, the person will knock on your door to let you know that the 20 minutes are up. After which you will talk with the experimenter for a couple of minutes.

The only rule we have about your writing is that you write continuously for the entire time. If you run out of things to say, just repeat what you have already written. In your writing, don't worry about grammar, spelling, or sentence structure. Just write. Different people will be asked to write about different topics. Because of this, I ask that you not talk with peers about the experiment. Because we are trying to make this a tight experiment, I can't tell you what other people are writing about or anything about the nature or predictions of the study. Once the study is complete, however, we will tell you everything. Right now, we expect the study to be complete in about six weeks. Another thing is that sometimes people feel a little sad or depressed after writing. If that happens, it is completely normal. Most people say that these feelings go away in an hour or so. If at any time over the course of the experiment you feel upset or distressed, please contact me or any of the other experimenters immediately. (Note all participants receive a sheet with phone numbers).

Another thing, your writing is completely anonymous and confidential. We ask you to put your subject number on your writing samples when you turn them in. Some people in the past have felt that they didn't want anyone to read them. That's OK, too. If you don't feel comfortable turning in your writing samples, you may keep them. We would prefer if you turned them in, however, because we are interested in what people write. I promise that none of the experimenters, including me, will link your writing to you. The one exception is that if your writing indicates that you intend to harm yourself or others, we are legally bound to match your ID with your name. In the last five years that we have been doing studies such as this, it has only happened once. Above all, we respect your privacy. Do you have any questions to this point? Do you still wish to participate?

Appendix G

Control Writing Instructions

The experimenter will not read a script since reading a script would tend to focus the experimenter on the script, rather than the participant. The experimenter will, however, make a relatively standard set of statements and ask a relatively standard set of questions.

Before introducing the writing task, the experimenter will go into the unscripted dialogue of building rapport.

Questions:

How are you doing?

How is school going?

How was your day today?

The experimenter will provide responses that reflect and summarize participant responses. The experimenter will generally treat the participant in a warm and supportive manner. The experimenter will be seated in a chair facing the participant and lean slightly forward and attend closely to the participant.

What I would like to have you write about is the contents of your house. In your writing, I want you to be as objective and detailed as possible. I am not interested in your emotions or opinions. You can write about your house as a whole or parts/rooms of your house. Whatever you choose to write, however, it is critical that you describe your house as accurately and as objectively as possible.

Check-in Statements:

We see how hard you are working and really appreciate your efforts.

You are doing really good work, thanks.

Appendix H

Expressive Writing Instructions

The experimenter will not read a script since reading a script would tend to focus the experimenter on the script, rather than the participant. The experimenter will, however, make a relatively standard set of statements and ask a relatively standard set of questions.

Before introducing the writing task, the experimenter will go into the unscripted dialogue of building rapport.

Questions:

How are you doing?

How is school going?

How was your day today?

The experimenter will provide responses that reflect and summarize participant responses. The experimenter will generally treat the participant in a warm and supportive manner. The experimenter will be seated in a chair facing the participant and lean slightly forward and attend closely to the participant.

What I would like to have you write about is the most traumatic, upsetting experience of your entire life. In your writing, I want you to really let go and explore your very deepest emotions and thoughts. You can write about the same experience about different experiences. In addition to a traumatic experience, you can also write about major conflicts or problems that you have experienced or are experiencing now. Whatever you choose to write, however, it is critical that you really delve into your deepest emotions and thoughts. Ideally, we would also like you to write about significant experiences or conflicts that you have not discussed in great detail with others. You might tie your personal experiences to other parts of your life. How is it related to your childhood, your parents, people you love, who you are, or who you want to be. Again, in your writing, examine your deepest emotions and thoughts.

Check-in Statements:

We see how hard you are working and really appreciate your efforts.

You are doing really good work, thanks.

Appendix I

Debriefing

Dear Research Participant,

Before you leave, I would like to tell you a little more about this project and then answer any questions that you may have. This research project was designed to examine two issues. First, writing about emotional topics has been shown to give a variety of psychological and physiological benefits, including improved immune function, lower absenteeism, and increase in positive mood. We were interested to see if writing in this way may produce psychological benefits for college students at the University of Mississippi. In order to study this, people were assigned to one of two conditions. Participants were randomly assigned to write about the details of their house with a warm, supportive experimenter or to write about an emotionally difficult event with a warm, supportive experimenter. The second purpose of the study was to examine the ways in which one's ability to understand emotions and willingness to contact them affect these outcomes. The questionnaires you completed will tell us something about this. We will use these data in our analysis of the overall outcomes of the study.

Again, we thank you for your participation and cooperation. We believe that this work is important in helping us to understand expressive writing; and how emotion comprehension and regulation play a role in psychological benefits accrued from written disclosure. We hope that you have found some educational value in participating and in reading this description of our study. If you have any questions or concerns, please ask the research assistant or contact Dr. Kelly Wilson at 915-5256. He will be happy to assist you. If you have any questions, concerns or reports regarding this study, please contact the IRB at (662) 915-3929.

VITA

STEPHANIE L. NASSAR

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Citizenship: USA

Education

- 2014** **Doctor of Philosophy**, Clinical Psychology (*anticipated*)
The University of Mississippi, University, MS
 Doctoral Dissertation: *Cognitive Outcomes in Children Experiencing Seizures During Treatment for Acute Lymphoblastic Leukemia*
 Advisor: Kelly G. Wilson, Ph.D.
- 2011** **Master of Arts**, Clinical Psychology
The University of Mississippi, University, MS
 Master's Thesis: *Discriminating Emotions and Engaging Difficult Emotional Material: Implications for Process and Outcome in Written Disclosure*
 Advisor: Kelly G. Wilson, Ph.D.
- 2004** **Bachelor of Science**, Magna Cum Laude
Spring Hill College, Mobile, AL
 Major: Psychology
 Minor: Philosophy
 Senior Thesis: *The Effects of Personality Type on Procrastination in College Students*
 Research Advisor: Lisa D. Hager, Ph.D.

Honors and Awards

- 2009 Wolfe Award Nominee
- 2009 Cambridge Who's Who Honors
- 2008 Gamma Beta Phi Society
- 2008-2004 Graduate Honors Fellowship
- 2004 Alpha Sigma Nu
- 2004-1999 SouthTrust Bank Corporate Scholarship
- 2004-1999 Spring Hill College Faculty Honors Scholarship
- 2004-1999 Mobile Metropolitan Service Award
- 2004-1999 Dean's List, Spring Hill College
- 2002 Psi Chi
- 2002 Outstanding Tutor of the Foley Community Service Center

Research Experience

Pres-2010 *Clinical Research Assistant* to Heather M. Conklin, Ph.D.

Computerized Intervention for Amelioration of Cognitive Late Effects Among Childhood Cancer Survivors (COGTRN)

St. Jude Children's Research Hospital, Memphis, TN

- *ClinicalTrials.gov Identifier*: NCT01217996
- conducting archival data collection, electronic database searches, data entry and manipulation, quality assurance checks, literature searches, recruitment calls, eligibility checklists, participant scheduling, neuropsychological testing (cognitive, achievement, memory, attention, executive functioning), protocol scoring and interpretation

Cognitive Outcomes in Children Experiencing Seizures during Treatment for Acute Lymphoblastic Leukemia (XPD11-032)

- conducting a retrospective study to explore cognitive outcomes in children experiencing seizures during leukemia treatment

Supervisor: Heather M. Conklin, Ph.D.

2011-2009 *Principal Investigator*

Investigating the Expressive Writing Paradigm

The University of Mississippi, University, MS

- investigated the effects of writing about emotionally traumatic events vs. writing about personal values on psychological processes and outcomes

Supervisor: Kelly G. Wilson, Ph.D.

2009 *Co-Investigator*

Mindfulness for Two: Manipulating the Therapist and Context

The Psychological Services Center, The University of Mississippi, University, MS

- investigated the effects of therapist and contextual manipulations on interviewers' and interviewees' personal experiences (e.g., mood, physical sensations, quality of interaction)

Supervisor: Kelly G. Wilson, Ph.D.

- 2009** ***Research Assistant*** to Catherine H. Adams, M. A.
Perspective-Taking Among People with Intellectual Disabilities
 The Baddour Center, Senatobia, MS
- trained adults with developmental disabilities in deictic framing and perspective taking for Theory of Mind tasks and social skills interactions
- Supervisor: Kelly G. Wilson, Ph.D.
-
- 2008** ***Co-Investigator***
An Examination of the Stability of Implicit Relational Assessment Procedure (IRAP) Performance over Repeated Administrations
 The University of Mississippi, University, MS
- examined the reliability, validity, and procedural integrity the IRAP, a computerized measure of implicit cognition
- Supervisor: Kelly G. Wilson, Ph.D.
-
- 2008** ***Applied Behavior Analysis Trainer***
Acceptance and Commitment Training (ACT) to Address Burnout and Stress in Staff Working with People with Intellectual Disabilities
 North Mississippi Regional Center (NMRC), Oxford, MS
- trained NMRC staff in ABA techniques across three weeks
 - collected pre- & post-data
- Supervisor: Kelly G. Wilson, Ph.D.
-
- 2008** ***Co-Investigator***
Psychological Struggle and Flexibility
 The University of Mississippi, University, MS
- conducted survey research investigating the relationships across measures of psychological flexibility, valued living, mindfulness, body image, eating behaviors, academic procrastination, and established measures of psychological distress/outcome
- Supervisor: Kelly G. Wilson, Ph.D.
-
- 2007** ***ACT Luckyday Scholars Group Facilitator***
 The University of Mississippi, University, MS
- facilitated group discussions with undergraduate Luckyday Scholars having academic difficulties utilizing various Acceptance and Commitment Training exercises; collected time-series data
- Supervisor: Kelly G. Wilson, Ph.D.

2006-2005 *Co-Investigator*

Investigating the Emotional Writing Paradigm: An Analysis of Experimenter Interaction and Individual Experience of Emotion

The University of Mississippi, University, MS

- investigated the effects of therapist manipulations on individuals' experiences of emotion and psychological outcome
- coded, entered, and analyzed written narratives into Linguistic Inquiry Word Count (LIWC) Program Software

Supervisor: Kelly G. Wilson, Ph.D., Leslie J. Rogers, M.A.

2005-2004 *Research Assistant* to Kelly G. Wilson, Ph.D.

The University of Mississippi, University, MS

Part-time position

- aided in revising Clinic IRB application
- assisted in data collection and running studies for senior lab members' thesis & dissertation projects

2004 *Principal Investigator*

Spring Hill College, Mobile, AL

- investigated the effects of personality type on measures of academic procrastination and task completion

Supervisor: Lisa D. Hager, Ph.D.

Teaching and Administrative Experience

Sprg 2010 *Co-Instructor, PSY 420: Special Topics in Psychology*

The University of Mississippi, University, MS

- assisting students in gaining research experience beyond their laboratory class with a special emphasis in clinical psychophysiology
- aiding students in preparing material for graduate school applications

Supervisor: Scott A. Gustafson, Ph.D.

Fall 2010 *Guest Lecturer, Introductory Psychology, Social Psychology Module*

The University of Mississippi, University, MS

2010-2008 *Assistant Director*

Part-time position

The Psychological Services Center, The University of Mississippi, University, MS

- assisted Director with daily management of clinic
- provided quality assurance reviews of clinic records
- marketed and advertised services; increased community relations
- organized and monitored clinic duties and emergency cell phone duties
- organized and tracked individual supervision team's client flow
- oriented and trained incoming graduate therapists on clinic protocol
- revised clinic manual and streamlined procedures
- surveyed experts for treatment manuals to be included in the resource library

Supervisor: Scott A. Gustafson, Ph.D.

2008-2007 *Senator, Graduate Student Council*

The University of Mississippi, University, MS

- served as liaison between psychology department and graduate school

2007 *Seminar on College Teaching*

The University of Mississippi, University, MS

- joined and contributed to the Society for the Teaching of Psychology listserv
- created a syllabus for a 15 wk course in Abnormal Psychology
- prepared and delivered an Abnormal Psychology lecture to a small number of students (n=25) which incorporated explicit learning objectives, active learning techniques, outcome measures, and exam questions in which all levels of learning were assessed
- provided peer reviews for colleagues' lectures and received peer reviews
- created a teaching portfolio with statement of Teaching Philosophy

Supervisor: Kenneth J. Sufka, Ph.D.

2004 *Teaching Assistant* to Kelly G. Wilson, Ph.D.

The University of Mississippi, University, MS

Part-time fall position

- administered and graded examinations and extra credit for an undergraduate Abnormal Psychology class
- created class study guides for test preparation purposes

Clinical Experience

2011-2005 *Graduate Student Therapist*

The Psychological Services Center, The University of Mississippi, University, MS

- conducted screening, intake, and therapy sessions with clients
- authored therapy notes and completed other psychological documents
- trained in Acceptance and Commitment Therapy (ACT) and Cognitive Behavioral Therapy (CBT)

Supervisors: Kelly G. Wilson, Ph.D. (2005-2007, 2009-2010); Laura R. Johnson, Ph.D. (2006-2007; 2008-2009); Alan M. Gross, Ph.D. (2007-2008); Todd A. Smitherman, Ph.D. (2010-2011)

2011-2004 *ACT Treatment Development Group (ACTTDG)*

The University of Mississippi, University, MS

- developing expertise in the ACT model of assessment, case conceptualization, and treatment
- co-developing a training model that mixes didactic and experiential components

Supervisor: Kelly G. Wilson, Ph.D.

2010 *Group Facilitator, Coping With College Life*

The Psychological Services Center, The University of Mississippi, University, MS

- facilitated five one-hour group meetings for college students adjusting to college life/stressors
- utilized Acceptance and Commitment Training Model
- incorporated present moment, mindfulness, cognitive defusion, and values-centered exercises

Supervisor: Kelly G. Wilson, Ph.D.

2010-2009 *Behavioral Consultant*

Behavior, Attention, and Developmental Disabilities Consultants, LLC

Clarksdale Municipal School District, Clarksdale, MS

- conducted psychological assessments with children and adolescents, and authored detailed psychological reports
- conducted psychological/behavioral consultations and functional behavior analysis consultations for numerous elementary, middle, and high schools within Coahoma County
- conducted client history reviews, multiple-setting client observations, structured interviews with teachers, parents, and client, analyzed functions of client behavior, made recommendations, and wrote formal reports detailing consultation

Supervisor: Emily Thomas Johnson, Ph.D.

2010-2009 *Mental Health Consultant*

ICS, MS Head Start Centers

- conducted classroom observations of teacher-student interactions
- conducted individual child behavioral observations and assessments
- developed and implemented behavioral intervention plans for children
- engaged in classroom consultation with teachers, aides, and parent consultation

Supervisor: Alan M. Gross, Ph.D.

2010-2008 *Executive Team Leader*

The Psychological Services Center, The University of Mississippi, University, MS

- improved quality of clinical training, services, and clinic facilities
- recorded client activity to assist with triage
- brainstormed and implemented marketing and advertising ideas

Supervisor: Scott A. Gustafson, Ph.D.

2009-2008 *Cultural Connections Ambassador*

The Counseling Center, The University of Mississippi, University, MS

- facilitated a weekly two hour group comprised of American and international students
- assisted international students with acculturation process

Supervisor: Laura R. Johnson, Ph.D.

2009-2008 *Behavioral Consultant*

Part-time position

Desoto County School System, Olive Branch, MS

- conducted psychological assessments with children and adolescents, and authored detailed psychological reports
- conducted psychological/behavioral consultations and functional behavior analysis consultations for numerous elementary, middle, and high schools within Desoto County
- conducted client history reviews, multiple-setting client observations, structured interviews with teachers, parents, and client, analyzed functions of client behavior, made recommendations, and wrote formal reports detailing consultation

Supervisors: Sheila Williamson, Ph.D.; Emily Thomas Johnson, Ph.D.

2008-2007 *Clinic Administrative Group Member, Feng Shui*

The Psychological Services Center, The University of Mississippi, University, MS

- served as liaison between clinic group and supervision team
- kept records of client activity
- managed funds to update clinic equipment and decor

Supervisor: D. Scotty Hargrove, Ph.D.

2008-2007 *Neurohealthrehabilitative Psychology Intern*

Behavioral Health Center, North Mississippi Medical Center, Tupelo, MS

Part-time position

- conducted pain evaluations, competency and dementia evaluations, adolescent drug overdose evaluations, personality assessments, and neuropsychological assessments with adults and geriatric population
- authored and dictated neuropsychosocial reports
- conducted psychosocial intakes, individual therapy sessions, and group therapy sessions with inpatients on Acute A, Acute B, Geriatric, and Chemical Dependency Units

Supervisors: Mike Oliver, Ph.D.; Thomas E. Witty, Ph.D.; Brian Thomas, Psy.D.

2007 *Summer Graduate Student Therapist*

The Psychological Services Center, The University of Mississippi, University, MS

Quarter-time position

- conducted screening, intake, and therapy sessions with clients
- authored therapy notes and completed other psychological documents

Supervisor: D. Scotty Hargrove, Ph.D.

2007-2006 *Neuropsychological Examiner*

Center for Pediatric Neuropsychology, Le Bonheur Children's Hospital, Memphis, TN

Part-time position

- conducted neuropsychological assessments with infants, toddlers, children, adolescents, and a few adults
- conducted evaluations within the Epilepsy Monitoring Unit (EMU) and Spina Bifida Clinic
- authored detailed neuropsychological reports including DSM-IV-TR diagnoses and recommendations

Supervisor: Vickie R. Brewer, Ph.D.

2006-2005 *Community Home Graduate Student Psychologist*

North Mississippi Regional Center, Oxford, MS

Part-time position

- conducted cognitive and adaptive functioning assessments, weekly counseling sessions, and data collection with MR community clients
- authored behavioral programs and psychological reports

Supervisors: Kimberly Sallis, Ph.D.; Doug Buglewicz, M.Ed.

2004-2003 *Behavioral Specialist*

BayPointe Hospital, Mobile, AL

Part-time position

- supervised behaviorally and emotionally disturbed female adolescents
- therapeutically assisted adolescents with daily living skills

Supervisor: Angela Ferrera, M.S., L.P.C., Coordinator of Clinical Services

2003 *Psychology Intern*

Therapy Associates, Mobile, AL

Part-time position

- assisted with scheduling clients and clinical filing, observed and participated in therapy sessions, and created an anger management game for children

Supervisors: Dodie Ward, M.S., L.P.T.; Kim Zweifler, Ph.D.

2003-2000 *Physical Therapist Aide*

Providence Hospital, Mobile, AL

Part-time position

- scheduled and transported patients; aided in wound care dressing removal and application, aided in gait training and therapeutic exercises
- utilized hospital software MediServe and Invision; retrieved medical records, lab results, supplies, and medications

Supervisors: Loverette Vaughn, Office Coordinator; Kathy Mignone, P.T.A.

Professional Training

2010 ACT Summer Institute at the University of Nevada, Reno

2009 Vincent Carbone's Verbal Behavior Therapy at Hernando Elementary School, Hernando, MS

2008 ACT Summer Institute at the Illinois Institute of Technology, Chicago, IL

2007-2006 Center for Pediatric Neuropsychology Rounds at Le Bonheur Children's Medical Center, Memphis, TN

2006 ACT Advanced Practice Workshop at The University of Mississippi, University, MS

2005 ACT Experiential Workshop at Camp Hopewell, Oxford, MS

2004 ACT Summer Institute and Introductory Experiential Workshop at the University of Nevada, Reno

Grants

Gustafson, S., & Nassar, S. L. (2010). Clinical Training: Creation of a Service Consortium. *United States Department of Health and Human Services, Health Resources and Service Administration* (\$377,123.00, denied)

Publications

Nassar, S. L., Conklin, H. M., Ashford, J. M., Reddick, W. E., Glass, J. O., Jeha, S., Zhou, Y., Cheng, C., & Pui, C-H. (in preparation). Cognitive outcomes in children experiencing seizures during treatment for Acute Lymphoblastic Leukemia.

Gustafson, S. A., Nassar, S. L., & Waddell, D. E. (in preparation). Neurotherapy of neurally mediated syncope: A single case design. *Journal of Neurotherapy*.

- Bethay, J. S., Wilson, K. G., Schnetzer, L. W., & Nassar, S. L. (under review). A controlled pilot evaluation of Acceptance and Commitment Training for intellectual disability staff. *Mindfulness*.
- Wilson, K. G., Flynn, M. K., Bordieri, M., Nassar, S. L., Lucas, N. N., & Whiteman, K. C. (2011). Acceptance and Cognitive Behavior Therapy. In W. O'Donohue & J. E. Fisher (Eds.) *Cognitive Behavior Therapy: Core Principles for Practice*. Hoboken, NJ: Wiley.
- Waddell, D. E., Nassar, S. L., & Gustafson, S. A. (2011). Single-case design in psychophysiological research. Part II: Statistical analytic approaches. *Journal of Neurotherapy*, 15(2), 160-169.
- Gustafson, S. A., Nassar, S. L., & Waddell, D. E. (2011). Single-case design in psychophysiological research. Part I: Context, structure, and techniques. *Journal of Neurotherapy*, 15(1), 18-34.
- Nassar, S. L. (2010). A measure of interest to logotherapy researchers: The Death Depression Scale. *The International Forum for Logotherapy*, 33(1), 56-57.
- Nassar, S. L. (2009). A measure of interest to logotherapy researchers: The Valued Living Questionnaire. *The International Forum for Logotherapy*, 32(2), 121-122.
- Nassar, S. L. (2009). A measure of interest to logotherapy researchers: The Meaningful Life Measure. *The International Forum for Logotherapy*, 32(1), 56-57.
- Nassar, S. L. (2008). A measure of interest to logotherapy researchers: The Satisfaction With Life Scale. *The International Forum for Logotherapy*, 31(2), 114-115.
- Nassar, S. L. (2008). A measure of interest to logotherapy researchers: The Hope Scale. *The International Forum for Logotherapy*, 31(1), 55-56.
- Nassar, S. L. (2007). Movies of interest to logotherapists. *The International Forum for Logotherapy*, 30(2), 112-115.
- Nassar, S. L. (2007). A measure of interest to logotherapy researchers: The Humor Styles Questionnaire. *The International Forum for Logotherapy*, 30(1), 48-50.
- Nassar, S. L. (2006). A measure of interest to logotherapy researchers: The Love Attitudes Scale. *The International Forum for Logotherapy*, 29(2), 119-121.
- Schulenberg, S. E., & Nassar, S. L. (2006, April 5). Meaningful cinema: Logotherapy and Finding Neverland [Review of the motion picture *Finding Neverland*]. *PsycCRITIQUES-Contemporary Psychology: APA Review of Books*, 51 (No. 14), Article 17. Retrieved April 5, 2006, from the *PsycCRITIQUES* database.

Presentations

- Nassar, S. L., Wilson, K. G. (2011, June). Adapting the Expressive Writing Paradigm as a Values-Based Intervention. In S. L. Nassar (Chair), *New Directions in Values Assessment and Intervention*. Symposium presented at the 9th Annual World Conference of the Association for Contextual Behavioral Science, Parma, Italy.
- Parman, M., Nassar, S. L., Kellum, K. K., & Wilson, K. G. (2011, May). Adapting the Expressive Writing Paradigm as a Values-Based Intervention. In A. Branstetter-Rost (Chair), *The Potential Utility of Expressive Writing in Acceptance and Commitment Therapy: Moving Behavior in Valued Directions*. Symposium presented at the 37th Annual Convention for the Association for Behavior Analysis International, Denver, CO.
- Nassar, S. L., Wilson, K. G., & Kellum, K. K. (2010, June). Update on Values-Centered Adaption of the Expressive Writing Paradigm. In S. L. Nassar (Chair), *Research and Therapeutic Application in the Context of Valued Living*. Symposium presented at the 8th Annual World Conference of the Association for Contextual Behavioral Science, Reno, NV.
- Flynn, M. K., Wilson, K. G., & Kellum, K. K., Nassar, S. L., Slater, R. M., Lucas, N. N., Bordieri, M., Bethay, S., Kolivas, E., & Kirkland, K. (June, 2010). Exploring the Use of the Hexaflex Functional Dimensional Experiential Interview. Paper presented at the 8th Annual World Conference of the Association for Contextual Behavioral Science, Reno, NV.
- Nassar, S. L., Wilson, K. G., & Kellum, K. K. (2010, May). Update on Values-Centered Adaption of the Expressive Writing Paradigm. In S. L. Nassar (Chair), *Research and Application in the Context of Valued Living*. Symposium presented at the 36th Annual Convention for the Association for Behavior Analysis International, San Antonio, TX.
- Flynn, M. K., Wilson, K. G., Kellum, K. K., Nassar, S. L., Slater, R. M., Lucas, N., Bordieri, M., Bethay, S. (2010, May). Exploring the Use of the Hexaflex Functional Dimensional Experiential Interview. In S. L. Nassar (Chair), *Research and Application in the Context of Valued Living*. Symposium presented at the 36th Annual Convention for the Association for Behavior Analysis International, San Antonio, TX.
- Williamson, S., Nassar, S. L., & Johnson, C. (2009, October). Elementary and Middle School Interventions. In E. T. Johnson (Chair), *Tutorial: Clinical Strategies within the Classroom for Children with Autism*. Symposium presented at the 60th Annual Conference of the Mississippi Psychological Association, Gulfport, MS.
- Nassar, S. L., Flynn, M. K., Slater, R. M., Kellum, K. K., & Wilson, K. G. (2009, June). Values-Centered Interventions. In R. M. Slater (Chair), *Values in Acceptance and Commitment Therapy: Conceptualization, Clinical Exercises, and Assessment*. Symposium presented at the Third Annual World Conference of the Association for Contextual Behavioral Science, Enschede, The Netherlands.

- Slater, R. M., Nassar S. L., Flynn, M. K., Kellum, K. K., & Wilson, K. G. (2009, June). What are Values? Unpacking Values as Conceptualized in Acceptance and Commitment Therapy. In R. M. Slater (Chair), *Values in Acceptance and Commitment Therapy: Conceptualization, Clinical Exercises, and Assessment*. Symposium presented at the Third Annual World Conference of the Association for Contextual Behavioral Science, Enschede, The Netherlands.
- Flynn, M. K., Nassar, S. L., Slater, R. M., Kellum, K. K., & Wilson, K. G. (2009, June). An Improved Measure of Valued Living: The Valued Living Questionnaire-II (VLQ-2). In R. M. Slater (Chair), *Values in Acceptance and Commitment Therapy: Conceptualization, Clinical Exercises, and Assessment*. Symposium presented at the Third Annual World Conference of the Association for Contextual Behavioral Science, Enschede, The Netherlands.
- Nassar, S. L., Wilson, K. G., Kellum, K. K., & Sandoz, E. K. (2009, May). Mindfulness for Two (Part II): The Effects of Therapist Disclosure. In J. Weinstein (Chair), *Mindfulness for Two (Part II): Manipulating the Therapist*. Symposium presented at the 35th Annual Convention of the Association for Behavior Analysis International, Phoenix, AZ.
- Nassar, S. L., Wilson, K. G., Kellum, K. K., & Flynn, M. K. (2009, May). Values-Centered Writing: Explorations Within The Expressive Writing Paradigm. In S. L. Nassar (Chair), *Research and Treatment in the Context of Valued Living*. Symposium presented at the 35th Annual Convention of the Association for Behavior Analysis International, Phoenix, AZ.
- Howard, R. C., Nassar, S. L., Martin, L., Slater, R. M., Sandoz, E. K., Kellum, K. K., & Wilson, K. G. (2009, May). The Permanent Solution: Suicidal Behavior and Experiential Avoidance. In R. M. Slater (Chair), *Psychological Flexibility and Difficult Clinical Presentations*. Symposium presented at the 35th Annual Convention of the Association for Behavior Analysis International, Phoenix, AZ.
- Davis, D., Hamblin, B., Hankton, U. N., Nassar, S. L., Ofili, P., Weinstein, J., & Johnson, L. R. (2009, April). *Updates on Outreach: Expanding Cultural Competence in our Services and Ourselves*. Diversity Colloquium presented at the University of Mississippi, University, MS.
- Nassar, S., Tucker, C., & Ambrose, C. (June, 2008). *Workplace Violence*. Presentation given at the Medical Ethics Committee meeting at North Mississippi Medical Center, Tupelo, MS.
- Nassar, S. L., Drake, C., & Wilson, K. G. (2008, May). One More Time: An Examination of the Stability of IRAP Performance over Repeated Administrations. In S. L. Nassar (Chair), *How Words Measure Up: An Investigation of the Reliability, Validity, and Procedural Integrity of the Implicit Relational Assessment Procedure*. Symposium presented at the 34th Annual Convention of the Association for Behavior Analysis International, Chicago, IL.

Bethay, S., Wilson, K. G., Lucas, N., Moyer, K., & Nassar, S. L. (2008, May). Acceptance and Commitment Training (ACT) to address burnout in staff caring for clients with intellectual disabilities (ID). In R. Slater (Chair), *ACT Outside the Clinic: Application of Acceptance and Commitment Therapy to Non-clinical Populations*. Symposium presented at the 34th Annual Convention of the Association for Behavior Analysis International, Chicago, IL.

Hankton, U. N., Hirschel, M., Nassar, S. L., Tracy, J., & Johnson, L. R. (2007, May). *Reaching Out to International Students: Some Strategies and Lessons Learned*. Diversity Colloquium presented at the University of Mississippi, University, MS.

Posters

Howard, R. C., Slater, R., Sandoz, E. K., Nassar, S. L., & Wilson, K. G. (2008, May). *The Permanent Solution: Parasuicidality and Experiential Avoidance*. Poster presented at the 34th Annual Convention of the Association for Behavior Analysis International, Chicago, IL.

Nassar, S. L. & Hager, L. D. (2004, May). *The Effects of Personality Type on Procrastination in College Students*. Poster presented at Spring Hill College, Mobile, AL.

Interviews

Morris, M. G. (2008, February 1). Sweat out the small stuff ... or not: Intense exercise, gentle meditative movement play key role in beating back unhealthy stress. *Daily Journal*, pp. 1C, 3C.

Morris, M. G. (2007, September 28). Putting the pieces back together: Young adults in transition particularly vulnerable to mental health issues. *Daily Journal*, pp. 1C, 6C.

Workshops

2011

Wilson, K. G., Flynn, M. K., Bordieri, M. J., Slater, R. M., Nassar, S. L., Whiteman, K., & Schnetzer, L. W. (July, 2011). *Treating Addiction with Co-Occurring Anxiety and Depression*. Workshop presented at the 9th Annual Conference of the Association for Contextual Behavioral Science, Parma, Italy.

Wilson, K. G., Schnetzer, L. W., Flynn, M. K., Bordieri, M. J., Nassar, S. L., & Whiteman, K. (July, 2011). *Mindfulness and Values Interviewing in Acceptance and Commitment Therapy*. Workshop presented at the 9th Annual Conference of the Association for Contextual Behavioral Science, Parma, Italy.

- 2009** Wilson, K. G., Sandoz, E. K., Flynn, M. K., Slater, R. M., Lucas, N. N., & Nassar, S. L. (June, 2009). *Learning Hexaflex Processes Using Mindfulness for Two Videos*. Workshop presented at the Third Annual Conference of the Association for Contextual Behavioral Science, Enschede, Netherlands.
- Know Thyself, Choose Thyself: Exploring Flexibility with Self and Valued Living*
Twente University, Enschede, Netherlands
- Facilitated hour didactic and experiential workshop on self-concept with Emily K. Sandoz, Ph.D.
- 2008** *ACT Case Conceptualization Workshop*
Illinois Institute of Technology (IIT), Chicago, IL
- assisted in two-day case conceptualization workshop using ACT model
Supervisor: Kelly G. Wilson, Ph.D.
- 2006** *Life Purpose Workshop*
The Psychological Services Center, University, Mississippi
- facilitated two-hour workshop on finding meaning and purpose in life events through utilization of various logotherapy exercises
Supervisor: Stefan E. Schulenberg, Ph.D.

Membership in Professional Associations

Mississippi Psychological Association, Student Affiliate, 2009
Gamma Beta Phi Society, Student Member, 2008
Association for Behavior Analysis, Student Affiliate, 2008
American Psychological Association, Student Affiliate, 2007
Association for Contextual Behavioral Science, Charter Member, 2006
Alpha Sigma Nu, Jesuit Honor Society, Student Member, 2004
Psi Chi, National Honor Society in Psychology, Student Member, 2002

References

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